WHITEFORD, TAYLOR & PRESTON L.L.P.
444 Madison Avenue, Fourth Floor
New York, NY 10022
(914) 761-8400
klewis@wtplaw.com
Kenneth M. Lewis

WHITEFORD, TAYLOR & PRESTON L.L.P.
Seven Saint Paul Street, Suite 1500
Baltimore, MD 21202-1636
(410) 347-8700
stiller@wtplaw.com
khroblak@wtplaw.com
Steven E. Tiller
Kevin G. Hroblak

Attorneys for Plaintiff, Max A. Rady

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

MAX A. RADY,

Plaintiff,

- against -

THE BOSTON CONSULTING GROUP, INC. and De BEERS UK LIMITED,

Defendants.

Case No.: 1:20-cv-02285-ALC

JURY TRIAL DEMANDED

SECOND AMENDED COMPLAINT

Max A. Rady ("Mr. Rady"), by his attorneys, Whiteford, Taylor & Preston L.L.P., respectfully files this Second Amended Complaint against the Defendants, The Boston Consulting Group, Inc. ("BCG") and De Beers UK Limited ("De Beers") (BCG and De Beers will collectively be referred to as the "Defendants"), for patent infringement, breach of contract, misappropriation of trade secrets, and other claims, and alleges as follows:

OVERVIEW

1. According to a May 2019 article by BCG titled "Stamping out Counterfeit Goods with Blockchain and IoT," counterfeiting is a widespread economic problem that results in billions of dollars in lost business revenue each year, exposing individuals and corporations to heightened health, safety, and cybersecurity risks from fraudulent materials and defective parts. For example, within the pharmaceutical industry, between $75 billion and $200 billion in counterfeit drugs are sold each year. In the electronics industry, counterfeit parts cost component manufacturers approximately $100 billion annually. And, in the luxury goods market, as much as 10% of all items for sale are counterfeits, representing as much as $28 billion in lost value.

2. According to this same article, what makes the impact of counterfeit goods and parts so damaging is its reach as fraudulent parts and goods affect every stage of the product life cycle — from the manufacturing floor to the point of sale, to the servicing function and beyond — driving up costs, eroding revenues, and damaging company reputations and brands.

3. The gemstone industry has long struggled with keeping counterfeits out of the market and providing greater transparency of the provenance and sourcing of each particular stone. The benefits to the industry of a quick, reliable, and transparent application to confirm provenance and sourcing could be significant. For example, studies have shown that customers are more willing to pay an increased amount for a stone that is guaranteed to be both legitimate and ethically sourced.

4. Additionally, the lack of a reliable way to identify and authenticate gemstones at scale allows fraudulent actors to use the same stone as collateral for multiple transactions. An application to confirm the provenance of gemstones would allow stones to be traced by their unique characteristics, allowing banks and lenders to identify any "double spending" of stones.

5. Such an application could also connect gemstone suppliers and retailers on a single,

standardized platform allowing for rapid, seamless communication between parties, enabling the easy transfer of money between countries and the trading of assets without middlemen.

6. In August 2010, Mr. Rady began a joint Masters/PhD research program as a part-time, self-funded student at the prestigious Kings College at the University of London. Mr. Rady's research was focused on physical optical properties, photonics, spectroscopy, and statistical modeling and analysis for predictive rendering relating to physical assets, including gemstones.

7. As an incidental by-product of Mr. Rady's research efforts, he developed a method to record to a blockchain the individual identification signatures of physical items that have unique, random properties. In particular, physical items are analyzed using 3D spatial mapping and spectral analysis to determine each item's individual identification signature. These signatures are then recorded to a blockchain allowing users to guarantee the authenticity and provenance of each item's location and source throughout the supply chain, even where significant modifications are made to that item.

8. Using Mr. Rady's system and method, the provenance of gemstones can be easily and quickly authenticated throughout the supply chain without the need to confirm with a central authority no matter how many times the gemstone is cut, polished, or otherwise modified.

9. Certain aspects of Mr. Rady's technology are now claimed in United States Patent No. 10,469,250 ("the '250 patent"), while other aspects of his technology have been maintained in confidence by Mr. Rady and are considered trade secrets by him. A copy of the '250 patent is attached as ***Exhibit A***.

10. In June 2016, nearly six (6) years after Mr. Rady began his research at Kings College, Mr. Rady became employed at BCG in various roles working primarily on two projects wholly unrelated to the identification of counterfeit goods or insuring the provenance of gemstones.

11. Upon information and belief, sometime in 2017, BCG began working with De Beers to develop a method to identify and insure the provenance of gemstones.

12. In early 2018, when, despite considerable effort, BCG had yet to develop a solution for De Beers, certain leaders of the development team overseeing the De Beers project contacted Mr. Rady knowing his PhD research had led to the filing of a patent application that claimed an invention that BCG could possibly implement in a solution for De Beers.

13. Mr. Rady disclosed details about his technology, the invention claimed in his then unpublished patent application, and trade secrets not otherwise disclosed to the BCG team working on the De Beers project only after BCG repeatedly agreed to maintain all information provided it by Mr. Rady in strict confidence and not to use such information without his consent.

14. A few short months later, however, BCG publicized its gemstone provenance and authentication method developed for De Beers, which became known as TRACR. This method was substantially similar to the detailed method disclosed to BCG by Mr. Rady and its use and disclosure was contrary to BCG's agreement not to use or disclose it without Mr. Rady's consent. TRACR also infringes on what was claimed in Mr. Rady's patent application that later issued as the '250 patent.

15. Shortly after Mr. Rady learned of this breach of confidence and Defendants' development and promotion of the De Beers solution, Mr. Rady confronted BCG about its improper use of his technology. Instead of compensating Mr. Rady for the use of his technology, or explaining how TRACR had been independently developed, BCG terminated Mr. Rady's employment.

16. This suit seeks damages arising from Defendants' patent infringement and misappropriation of trade secrets, as well as for BCG's breach of contract.

PARTIES

17. Mr. Rady is a citizen of the United States of America and the United Kingdom who currently resides in France. In August 2010, Mr. Rady commenced a joint Masters/PhD research program in computer science at the prestigious Kings College at the University of London. Mr. Rady's research focused on physical optical properties, photonics, spectroscopy, and statistical modeling and analysis for predictive rendering relating to physical assets, including gemstones. In June 2016, Mr. Rady was hired by a particular unit within BCG in London, United Kingdom as a Senior Engineer. In November 2017, Mr. Rady continued employment in various positions within another particular unit within BCG in Paris, France until his termination in October 2018.

18. BCG is a corporation organized under the laws of Massachusetts with offices throughout the world, including this Judicial District. BCG provides clients with consulting and technology implementation services to drive clients' technological change and growth to build competitive advantages and drive bottom line impact. BCG includes two business units, Boston Consulting Group Digital Ventures ("BCG DV") and Boston Consulting Group Gamma ("BCG Gamma"). Neither BCG DV nor BCG Gamma are independent from BCG. BCG DV and BCG Gamma were tasked with developing the De Beers Solution at issue in this matter. Upon information and belief, some of this development effort was conducted in this Judicial District.

19. BCG promotes the mission of its BCG DV business unit to include "invent[ing], launch[ing], scal[ing] and invest[ing] in game-changing businesses with the world's most influential corporations." In this regard, in a July 4, 2019 BCG DV presentation by Hanno Stegmann, BCG DV's Director South East Asia, discussing BCG DV's partnering with corporations, TRACR was identified as a portfolio asset of BCG DV, implying that BCG has an ownership interest in, or partnership involving, TRACR. Similarly, in what is described as an "innovative partnership," BCG DV and World Wildlife Foundation co-founded and launched in

January 2019, a new online platform called OpenSC that uses blockchain to track food and help consumers avoid illegal, environmentally-damaging, or unethical products.

20. De Beers is a corporation formed under the laws of the Bailiwick of Jersey. De Beers' primary function is to develop and maintain intellectual property assets relevant to the diamond industry for use by companies owned and/or operated by De Beers Group. In this regard, De Beers' Annual Report and Financial Statements for 2018 states:

> The key function of [De Beers] is to develop and maintain intellectual property relevant to the diamond industry, and to provide marketing services to [companies owned and/or operated by De Beers Group]. [De Beers] receives a royalty from another member of the [De Beers Group] for the use of the intellectual property owned by [De Beers] and also receives income for marketing services provided on behalf of the Group.

De Beers Group companies, of which De Beers is one, make up the world's leading diamond business involved in all aspects of the diamond trade, including diamond exploration, mining, and trading, as well as wholesale and retail sales. Certain of De Beers' improper actions complained of herein occurred in this Judicial District. Moreover, upon information and belief, De Beers engages in regular business activities in this Judicial District.

JURISDICTION AND VENUE

21. This Court has exclusive subject matter jurisdiction over Mr. Rady's claims pursuant to federal question jurisdiction, 28 U.S.C. §§ 1331 and 1338(a) and (b).

22. This Court has personal jurisdiction over the Defendants as each Defendant engages in regular business activities in this Judicial District, has regular and established places of businesses in this Judicial District, and/or have committed acts of patent infringement in this Judicial District. Also, certain of the acts complained of herein occurred in this Judicial District.

23. Venue is proper in this judicial district pursuant to 28 U.S.C. §§ 1391(b)-(c) and/or 1400(b).

FACTS COMMON TO ALL COUNTS

Mr. Rady's Education and Employment with BCG

24. In August 2010, Mr. Rady began a joint Masters/PhD research program as a self-funded, part-time student at the prestigious Kings College at the University of London. Mr. Rady's research focused on physical optical properties, photonics, spectroscopy, and statistical modeling and analysis for predictive rendering as it relates to physical assets, including gemstones.

25. In June 2016, Mr. Rady was hired by BCG in London as a senior engineer and assigned to BCG DV.

26. While working at BCG DV, Mr. Rady was assigned in May 2017 to work in BCG's Paris office on a project known as "Cyclope." Cyclope related to the development of an artificial intelligence and computer vision application for motor vehicle toll-booth classification and roadway accident detection. While not officially given the title, Mr. Rady acted, for the most part, as the Chief Technology Officer on the Cyclope project, helping to lead the project to final development.

27. On October 20, 2017, following a presentation by Mr. Rady at the BCG Gamma worldwide event in New York City, Andrea Gallego ("Ms. Gallego"), a Partner and Chief Technology Officer with BCG's Gamma business unit based in BCG's offices in Boston, Massachusetts, made a proposal to Mr. Rady that he join her team in a senior role to assist with a project she was leading known as "Source." Source involved the development of an artificial intelligence analytic engine to assist data scientists to produce production-ready computer code.

28. Mr. Rady accepted this offer to join the Source team and began his role as a senior analytic software developer working with Ms. Gallego within BCG Gamma in November 2017.

29. Due, at least in part, to Mr. Rady's efforts, expertise, and leadership, Source was delivered ahead of schedule and below budget. This resulted in Mr. Rady's promotion to lead analytic software developer in May 2018.

30. Throughout his employment with BCG, Mr. Rady continued his part-time, self-funded PhD program at Kings College. Mr. Rady's PhD research had no relation to either the Cyclope or Source projects, or any other project on which he was assigned while employed by BCG.

31. Mr. Rady advised BCG, both before he began work with BCG in 2016 and at various times throughout his employment, about his studies at Kings College. For example, prior to being assigned to the Source project team, Mr. Rady advised Ms. Gallego, as well as Seshadri Iyer ("Mr. Iyer"), a Managing Director and Senior Partner at BCG Gamma based in BCG's Washington, D.C. office, of his research work at Kings College and that he was contemplating filing a patent application for a particular invention arising therefrom. Ms. Gallego indicated that this was not of any concern to BCG, confirming that his research was entirely unrelated to Cyclope, Source, or any other project Mr. Rady was assigned to during his employment with BCG.

32. On December 22, 2017, Mr. Rady filed Provisional Patent Application No. 62/609,783 for a framework to record to a blockchain unique identification signatures of physical items, including gemstones, which have unique, random properties. Mr. Rady then filed an application under the Patent Cooperation Treaty ("PCT") on December 21, 2018 - Application No. PCT\US2018\067200. Mr. Rady also filed a United States patent application - No. 16/289,083 - which issued on November 5, 2019 as the '250 patent.

Mr. Rady's Disclosures to BCG Regarding the De Beers Solution

33. On January 8, 2018, Mr. Rady, at the suggestion of Ms. Gallego, who was aware that he had filed a patent application for an invention derived from his PhD research a few weeks

earlier, contacted Sylvain Duranton ("Mr. Duranton"), a Senior Partner, Managing Director, and Chief Executive Officer at BCG's Gamma's business unit, to advise him of his PhD research and recently-filed patent application. Ms. Gallego knew that Mr. Duranton, given his position, had overall responsibility for the project team assigned to develop a method to authenticate and track gemstones in conjunction with De Beers, and thought that Mr. Rady may be able to assist with its development. At this time, Mr. Rady was led to believe that BCG had been working on development of this method with De Beers for a significant period of time and that this work was significantly behind schedule.

34. Mr. Rady told Mr. Duranton that his PhD research was focused on physical optical properties, photonics, spectroscopy, and statistical modeling, as well as analysis for predictive rendering of physical assets, including gemstones, and that he would be willing to discuss his research and patent application on a confidential basis.

35. On January 9, 2018, in BCG's offices in Paris, Mr. Rady met with Mr. Duranton to discuss his PhD research and pending patent application. Prior to disclosing any details of his research or unpublished patent application, Mr. Rady asked Mr. Duranton to agree to maintain the contents of the meeting in strict confidence. Mr. Duranton agreed that he would not disclose any details about those discussions to any third party, including any others at BCG, or to use the information for any purpose without Mr. Rady's consent.

36. During this meeting, Mr. Rady provided Mr. Duranton with significant details about his research findings and pending patent application. Mr. Duranton was extremely impressed and noted that Mr. Rady's invention and related technology was very valuable and that Mr. Rady could likely license his technology and invention to a number of third parties. Mr. Duranton told Mr. Rady that he would inform Arun Ravindran ("Mr. Ravindran"), a Partner and Associate Director at BCG's Gamma division based in BCG's offices in Boston, Massachusetts,

and Romain De Laubier ("Mr. De Laubier"), a Managing Director and Partner at BCG Gamma, who were leading the De Beers project (which had been assigned the name "Project Midnight"), to contact Mr. Rady to discuss BCG's possible licensing of his technology and invention.

37. On January 18, 2018, Mr. Ravindran contacted Mr. Rady by email, requesting a call to discuss Project Midnight stating: "this is about De Beers and if/how we can use your provisional patent for it...." During a call later that day where Mr. Rady was working at BCG's office in New York City while Mr. Ravindran was in BCG's office in Boston, Mr. Ravindran requested that Mr. Rady send him a copy of his unpublished provisional patent application. Mr. Rady agreed to do so only if Mr. Ravindran agreed to hold the patent application and any other details provided by Mr. Rady regarding his research efforts in confidence and not share any details with anyone, including any others at BCG, or otherwise use this information, without Mr. Rady's consent. Mr. Ravindran agreed to these conditions of confidentiality.

38. Given Mr. Ravindran's assurance that Mr. Rady's unpublished patent application and details regarding his PhD research would be maintained in confidence by BCG, Mr. Rady sent Mr. Ravindran a copy of his unpublished patent application following their discussion.

39. On January 22, 2018, Mr. Ravindran organized a Webex meeting with Mr. Rady, who was still working from BCG's offices in New York City, to further discuss Mr. Rady's patent application and research and their potential application to Project Midnight. During this meeting, Mr. Rady provided significant details regarding an end-to-end solution to create a digital fingerprint and confirm the provenance of physical items such as diamonds, without reliance on a central authority. Before providing this additional detailed information to Mr. Ravindran, Mr. Rady once again confirmed that this information would remain confidential and not be used by BCG on Project Midnight or any other project, without Mr. Rady's consent. Mr. Ravindran once again agreed to these conditions of confidentiality on behalf of BCG.

40. Then, on January 23, 2018, at Mr. Ravindran's request, Mr. Rady, who was still working from BCG's offices in New York City, provided Mr. Ravindran additional confidential details regarding his PhD research and pending patent application and their potential application to Project Midnight. Mr. Rady also discussed with Mr. Ravindran the projects on which he was assigned during his employment with BCG so as to confirm that the information being provided by Mr. Rady had not been developed by him within the scope of his employment at BCG.

41. Upon receipt of this information, Mr. Ravindran did not question Mr. Rady's assertions that his invention and related technology were independently developed and were not developed within the scope of his employment with BCG. Instead, Mr. Ravindran again met with Mr. Rady on February 6, 2018 to explore how Mr. Rady's technology could potentially be exploited by BCG and De Beers as part of Project Midnight and to understand what Mr. Rady wanted in exchange for BCG potentially using his technology as part of the De Beers solution.

42. In this meeting, Mr. Ravindran confirmed that BCG was struggling to develop a method to authenticate, match, and track gemstones on behalf of De Beers.[1] In reply to Mr. Ravindran's question, Mr. Rady stated that he would be interested in a licensing relationship to help BCG advance the De Beers project.

Mr. Rady Passes on a Potential Licensing Opportunity for His Patent

43. On or about March 7, 2018, as a result of connections held by certain of his

[1] According to a BCG article titled "Capturing the Value of Blockchain" published in April 2019, Mr. Jan Philipp Bender, Partner and Managing Director and a key member of Project Midnight, said: "One of the first tasks for the Tracr team was to create a unique digital "fingerprint" for each diamond and then use that information to track and trace the diamond's journey." In the same article, Mr. Bender said: "Tracr provides end-to-end diamond tracing from the mine to the point of sale. It was created to address long-standing issues and provide benefits within the diamond industry—authenticating a diamond's natural creation, provenance, and ethical sourcing."

university colleagues, Mr. Rady was approached by Rio Tinto, Plc ("Rio Tinto"), one of the largest metal and mining corporations in the world, about potentially licensing his technology and patent.

44. Mr. Rady informed Ms. Gallego of this potential licensing opportunity to ensure that it did not pose a conflict with his employment at BCG. In this regard, Ms. Gallego introduced Mr. Rady to Sophie Pradere ("Ms. Pradere"), Senior Legal Counsel with BCG, to discuss this issue.

45. Ms. Pradere recommended that Mr. Rady not enter into licensing negotiations with Rio Tinto for his technology or patent application as this could be seen by De Beers as a conflict of interest given BCG's relationship with De Beers and the ongoing discussions regarding use of Mr. Rady's invention as part of Project Midnight.

46. Based on Ms. Pradere's direction, Mr. Rady terminated all discussions with Rio Tinto, thus forfeiting an opportunity to license his technology and invention for significant fees.

Defendants' Misappropriation of Mr. Rady's Technology and Infringement of Patent

47. On May 11, 2018, Mr. Ravindran posted on BCG's internal workplace communication platform an article that appeared in Computerworld published by De Beers a day earlier about the launch of TRACR; a system that would be used to track diamonds from the mine to retail locations. TRACR, this article explained, tracks diamond provenance assuring retailers and consumers that each diamond has been sustainably mined and is of guaranteed quality. TRACR further tracks authenticity to assure each diamond's provenance providing traceability into each step of cutting, polishing, and otherwise modifying every diamond.

48. On May 11, 2018, and immediately after seeing the Computerworld article, Mr. Rady confronted Mr. Ravindran about the technology used in the TRACR application. During the discussion with Mr. Ravindran, Mr. Rady realized the similarities between TRACR and his patent application and technology disclosed to Mr. Ravindran months earlier. Despite the fact that Mr.

Ravindran knew since at least February 2018 that Mr. Rady was interested in a licensing relationship in exchange for BCG using his technology to advance the De Beers project, Mr. Ravindran once again asked Mr. Rady whether he would be willing to license his patent and associated technology to BCG. Mr. Rady reiterated, as he had done before, that he would be interested in a licensing relationship.

49. On May 14, 2018, Mr. Rady discussed his concerns with Ms. Gallego and raised his concerns by email to Messrs. Duranton, Ravindran, and De Laubier regarding the overlap between his technology and the DeBeers solution based on his discussions with Mr. Ravindran three days earlier. Mr. Ravindran responded to Mr. Rady's email stating "… we need to formalize how to use your patent pending work for TRACR." Additionally, Ms. Gallego sent an email to Ms. Pradere stating "… As you know, [Mr. Rady] has a provisional patent under his own name that is related to the application of distributed ledger systems or "blockchain".... The application of his work can help us in a lot of client cases, ... [Mr. Rady] does not want to give up all the rights of his work to BCG – and wants to retain ownership.… We could do something where BCG would have full exclusivity of that license …."

50. On May 18, 2018, Ms. Gallego informed Mr. Rady that Mr. Ravindran was exploring the possibility of licensing Mr. Rady's patent and associated technology.

51. On May 21, 2018, Ms. Gallego informed Mr. Rady that Ms. Pradere was gathering information from BCG DV and that this information showed that Mr. Rady had no connection with, or exposure to, the De Beers project, thus confirming Mr. Rady's claim that his invention and related technology had not been developed in the course of his employment with BCG.

52. On May 22, 2018, Mr. Rady, as a member of BCG Gamma's global distribution list, received an email from Shervin Khodabandeh ("Mr. Khodabandeh"), a Managing Director and Senior Partner at BCG Gamma in BCG's offices in California, attaching a photograph of a

slide presented by BCG at a meeting in Paris describing the TRACR application. The slide indicated that the TRACR application utilizes 3D image scanning of gemstones to identify a trio of anomalies (inclusions/scratches/defects) which are then vector mapped into a 3D spatial relationship along with spectral analysis to determine each gemstone's unique "fingerprint." BCG's presentation also made clear that TRACR stored these fingerprints on a blockchain to authenticate the provenance of each diamond through the entire supply chain.

53. The title of this slide was "BCG GAMMA is developing a unique fingerprint of the diamond ('Stone ID') and included categories titled "Shape Data – Rough stone matching;" "Inclusion mapping – Rough-to-polished matching;" and "Spectral analysis – Rough, polished and rough-to-polished matching." "Shape data" is 3-D image scanning of a gemstone, which, along with "Inclusion mapping – Rough-to-polished matching," suggests that TRACR produces an external geometry model and identifies anomalies (which can occur at various depths and/or within the surface of the diamond asset), which allows for a trio of anomaly mapping schemes to be created, that are linked by the feature vectors highlighted in the section of the slide as "Inclusion mapping – Rough-to-polished matching."

54. This slide goes on to show a trio of anomalies (inclusions, scratches, defects, *etc*.), which are vector mapped by what appears to be a 3-D spatial relationship. In this regard, the slide clearly shows: (i) a rough gemstone outer-shell; (ii) another cut or proposed cut of the gemstone; and (iii) a series of inclusions, imperfections, and anomalies being identified to create a unique identifier for the proposed cut stone created from the original raw stone.

55. Further, in an email dated May 14, 2018, Mr. Ravindran stated: "Gamma work on Tracr is limited to StoneID – to create rough/polished specific signatures to identify rough, polished and rough-to-polished. In other words, our work is on stone geometry, 3d modeling and

spectroscopy. The block chain integration is managed by DV engineering team." This statement confirms BCG's use of many elements claimed in the '250 patent.

56. The description of TRACR, developed by BCG in conjunction with De Beers, as illustrated in the slide distributed by Mr. Khodabandeh and the email of Mr. Ravindran, was nearly identical in all material respects to Mr. Rady's technology and read on the claims included in Mr. Rady's then-pending patent application.

57. This information from Mr. Khodabandeh and Mr. Ravindran confirmed Mr. Rady's suspicions that TRACR implemented his invention and related technology.

58. Between June and August 2018, BCG pressured Mr. Rady to release his claims against BCG without explaining how TRACR had been independently developed.

59. On or about August 16, 2018, Ms. Gallego shared with Mr. Rady several emails concerning an internal BCG investigation sent to her, as well as Mr. Iyer and others at BCG, confirming that Mr. Ravindran had shared Mr. Rady's pending patent application and technology with other BCG employees to advance Project Midnight and potentially other projects. This investigation, according to Ms. Gallego, confirmed, based on Mr. Ravindran's own admissions, that there was significant overlap between the De Beers solution and Mr. Rady's invention identified in his patent application, as well as the other technology disclosed by Mr. Rady to Mr. Ravindran.

60. On September 21, 2018, after informing Mr. Rady of the results of an internal BCG investigation confirming the invention described in his provisional patent application was independently developed, and was not developed within the scope of his employment at BCG, Ms. Gallego continued to pressure Mr. Rady to release his claims against BCG in order to continue his employment.

61. On October 4, 2018, Mr. Rady received exemplary comments for his annual review.

In particular, Ms. Gallego stated that "the combination of [Mr. Rady's] work ethic and intelligence is inspiring; … [he provides] outstanding contribution, consistently exceeds expectations; … [and] exemplifies BCG's core values…."

62. Notwithstanding his exemplary review a few weeks earlier, BCG terminated Mr. Rady's employment on October 31, 2018. Upon information and belief, Mr. Rady's employment was terminated because of the concerns he raised regarding BCG's misappropriation of his technology and pending patent application.

De Beers Launch of TRACR, GemFair, and the TRACR Association

63. In 2018, De Beers, and upon information and belief, with the assistance of, and in partnership with, BCG, launched TRACR, which De Beers described in its 2018 Interim Financial Statement as providing a single, tamperproof, and permanent digital record for every diamond registered on the TRACR platform. In this financial statement, De Beers further described TRACR as underpinning "confidence in diamonds and the diamond industry by ensuring that all registered diamonds are conflict-free and natural, while also enhancing efficiency across the sector." TRACR, upon information and belief, is utilized in the United States and throughout the world.

64. Also in 2018, De Beers, with, upon information and belief, the assistance of, and in partnership with, BCG, announced the launch of GemFair, a program to create a secure and transparent route to market for ethically sourced artisanal and small-scale mined ("ASM") diamonds. De Beers described GemFair in its 2018 Interim Financial Statement as using "dedicated technology to record ASM production at mine sites that meet demonstrable ethical standards, with the aim of purchasing rough diamonds from approved locations…to improve working conditions and livelihoods for those working in the sector." De Beers went on to make

clear that GemFair "will be integrated with the TRACR blockchain platform." GemFair, upon information and belief, is utilized in the United States and throughout the world.

65. De Beers, with, upon information and belief, the assistance of BCG, also launched the TRACR Association in 2018; an organization comprised of many of the largest mining, wholesalers, and retailers in the diamond and gemstone industry, including Chow Tai Fook, Signet Jewelers, Alrosa, Venus Jewel, Rosy Blue and Diacore, to name a few. Signet Jewelers, for example, owns and operates approximately 2,500 retail jewelry stores throughout the United States, including in this Judicial District, under the retail names Kay Jewelers, Zales, and Jared The Galleria of Jewelry, while Alrosa is the largest diamond mining company by volume in the world. Through the TRACR Association, De Beers and BCG promote the use of TRACR to entities up and down the diamond and gemstone supply chain, including retail locations in the United States.

66. In a De Beers media release dated May 10, 2018, De Beers Group Chief Executive Officer, Mr. Bruce Cleaver, said: "The Tracr project team has demonstrated that it can successfully track a diamond through the value chain, providing asset-traceability assurance in a way that was not possible before. This is a significant breakthrough….."

67. De Beers and BCG have marketed and promoted TRACR throughout the world, including in the United States, using a variety of methods, including a website at the domain tracr.com. As an example, at the Jewelers of America National Convention in New York City on July 28, 2019, Oli Cooper, TRACR's Chief Operating Officer, participated in a panel discussion including executives from Signet Jewelers, Richline Group, and IBM about the use of blockchain technology in the jewelry industry. Upon information and belief, Mr. Cooper promoted the release of TRACR at this event.

68. Similarly, De Beers and BCG promoted TRACR at Consensus 2019 held in New

York City from May 12 – 15, 2019. Consensus is an annual trade show for the cryptocurrency and blockchain industries.

69. In recognition of the roll out of TRACR, Forbes recently included De Beers on its second annual Forbes Blockchain 50 recognizing enterprises embracing blockchain technology. To qualify, Blockchain 50 members must be generating no less than $1 Billion in revenue annually or be valued at $1 Billion or more. In particular, Forbes indicated that "De Beers' new software, Tracr, follows diamonds, which have undergone 3-D scans, as the gems are mined, cut, polished and sold. Already more than 30 participants, including Signet Jewelers – owner of Kay, Zales, and Jared – have signed on. Tens of thousands of stones are being registered per month."

70. Mark Cutifani, Chief Executive Officer of Anglo American PLC, De Beers' parent, commented at the Mining Indaba conference that: "Since its launch, Tracr has attracted a broader base of diamond producers, midstream businesses, and retailers. This collaboration has helped build significant momentum, and we believe that Tracr's data-backed authentication capabilities hold tremendous promise."

71. De Beers also recently indicated that as much as sixteen percent (16%) of its approximately 7.8 million carats of yearly diamond production have been registered on TRACR.

72. In an interview on a podcast known as "The Jewelry District" presented by JCK Magazine and JCK Online, De Beers Group Chief Executive Officer Bruce Cleaver commented that TRACR is part of the future of the diamond industry. Mr. Cleaver further commented that De Beers released an enhanced application interface for TRACR and that he expects that at least fifty percent (50%) of all De Beers Group diamonds will soon be registered on TRACR. Mr. Cleaver also noted that thirty (30) industry participants are part of the TRACR Association and that De Beers has received significant interest about application of the TRACR technology in other industries.

73. TRACR Association member Venus Jewel promotes its use of TRACR on its website at the domain venusjewel.com with the following statement:

> Tracr is an innovative, industry-focused Internet of Value platform developed for the diamond industry by the diamond industry. Tracr is connecting the diamond industry by establishing a baseline of trust through provenance, traceability and authenticity. The Tracr Internet Value Platform creates a tamper-proof, immutable record of a diamond's journey throughout the full value chain, whilst ensuring that the diamond industry's data and digital assets are stored and shared securely.

A Project Midnight Team Member Contacts Mr. Rady to Confirm BCG's Patent Infringement and Misappropriation of Confidential Technology

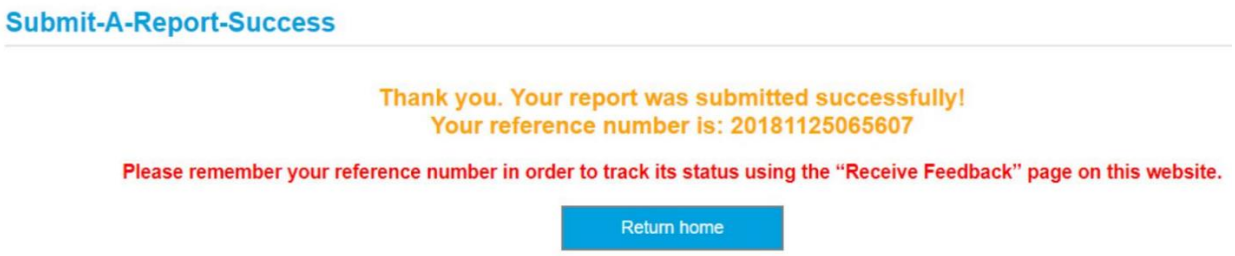
74. In mid-November, 2019, Mr. Rady posted on his LinkedIn account, that on November 5, 2019, the United States Patent and Trademark Office (the "USPTO") issued the '250 patent titled "Physical Item Mapping to Blockchain Framework."

75. Several weeks later, Mr. Rady received a message from someone claiming to be a part of the Project Midnight team at BCG. This person indicated that s/he, as well as others on the Project Midnight team, believed that critical information provided to them during development of TRACR had been misappropriated from Mr. Rady. Specifically, this individual posted:

> Hi, Max.
>
> Congratulations on your patent. Most of us at the [BCG] office in London saw your LinkedIn post and we are happy for you but are unable to comment on it for job security and this is why this profile is not my real name. The post confirmed what most of us suspected last year when you left BCG that your patent was used in Midnight. I was one of the collaborators on Midnight and I and others sensed something odd last year after you left and were uncomfortable because management told us to keep quiet and carry on. I complained on line anonymously to the Anglo-American speak up hotline (https://www.speak-up-site.com/) on 25 November 2018 because I wanted De Beers to know that BCG nicked your patent. The complaint reference is – 20181125065607. I reported in the hotline how Midnight was behind and in the beginning of 2018 the project team received technical information from [a certain Product Director at BCG] regarding ideas for stone identification and tracking and through the use of this information we achieved several project milestones. We found out later that you disputed with BCG about the use of your patent without your permission and were terminated. There are rumors that you made a claim against BCG so I wish you good luck.

(the "Whistleblower Complaint"). It is believed that the Product Director referenced in the Whistleblower Complaint is based in BCG's San Francisco, California office.

76. The Anglo-American speak up hotline to which this individual referred is a confidential reporting service of De Beers on which employees and stake holders may report any concerns they may have. In addition to providing the reference number for her or his complaint to the speak up hotline, this individual also provided Mr. Rady with a screen shot of the complaint reference number, a copy of which is below.



77. The Whistleblower Complaint further confirmed Mr. Rady's beliefs that the Defendants misappropriated his research and infringed his patent.

78. BCG continues to market its capabilities to develop systems utilizing physical item mapping to a blockchain framework similar to TRACR. For example, as of August, 2020, on BCG's United States and global website pages titled "Tapping the Opportunities of Blockchain," BCG promotes its service offerings and its ability to assist organizations identify and seize the potential of blockchain. As part of this web page, BCG specifically identifies Tracr as an example of its work, stating: "Tracr. The diamond industry's value chain is highly complex, with many players and processing steps but little transparency. We worked with De Beers Group to develop a blockchain-based solution-called Tracr-that attaches a digital fingerprint to every diamond and records that identifier on the blockchain, from mine to point of sale. Other diamond producers and retailers have joined the effort, with the goal of implementing Tracr as an industrywide standard."

79. Further, in a January 2020 white paper published by the World Economic Forum, in collaboration with BCG, titled "Share to Gain: Unlocking Data Value in Manufacturing," the value of sharing data in ways like Tracr to identify fraud and establish provenance and authenticity is touted.

> **How does data sharing help?**
>
> By sharing data, value chain participants can help identify fraud and establish provenance and authenticity. This requires a combination of technologies, where the raw material gets a tamper-proof unique identification that follows the material along its production life cycle. By sharing data, stakeholders along the value chain can create a continuous trail of records around this unique identification.
>
> With a tamper-proof trail, producers can then provide provenance and authenticity information as necessary by using this unique ID. The benefits are especially visible in industries that are heavily regulated, and where fraud and counterfeiting can be costly and the origin of products are of particular interest. In the diamond industry, for example, it is essential to establish authenticity and provenance to ensure that the diamonds have been ethically and responsibly harvested.
>
> **How would that work?**
>
> As good examples, Tracr and Everledger have introduced blockchain technology in the diamond industry to combat fraud and counterfeiting. Each company has developed a solution that assigns a unique identity to each diamond, records its characteristics and quality, and tracks each step of the process from the mine to the retailers.

80. In this same White Paper, the continued use of this same technology in other industries is discussed. For example, an initiative called OpenSC comprehensively establishes traceability and enables conditioned monitoring in the food industry by using a blockchain architecture to provide consumers with verifications of producers' claims regarding food, such as legal fishing, free range, and fair trade assertions.

> **Exchange digital product characteristics**. In discrete manufacturing today, most components are already designed digitally using computer-aided design (CAD) software. Even if manufacturers originate the product design using a CAD model, paper records are still used to document and communicate the actual dimensions of the product created in different production steps.

What is the challenge?

Because records are kept by individual stakeholders along the value chain, in many cases, it is necessary to manually exchange records. Manufacturers must also conduct audits and quality checks to confirm that selected dimensions will meet the tolerances specified.

Digital product twins provide a solution to these challenges. These are digital representations of a product, including its actual dimensions and shape characteristics. A digital product twin expands upon the original CAD model by adding information on actual dimensions and quality from various production steps – creating a merged model of design data and actual characteristics. Yet creating a digital twin that follows the whole life cycle of the product, combining data on components, requires a high level of cooperation and coordination.

Mr. Rady Reaches Out to BCG and De Beers to Seek Their Position on this Matter

81. On September 26, 2018, Mr. Rady, through counsel, sent a cease and desist letter to BCG requesting BCG and its various business units to immediately cease any and all further disclosure and exploitation of the technology developed by Mr. Rady, including through De Beers and any other client or third party with whom Mr. Rady's technology was shared or used in breach of BCG's obligation of confidentiality.

82. Additionally, on November 22, 2019, Mr. Rady's counsel sent a letter to Bruce Cleaver, Chief Executive Officer of the De Beers Group, advising Mr. Cleaver of Mr. Rady's concerns regarding De Beers' infringement of the '250 patent.

83. On that same date, Mr. Rady's counsel sent a letter to Richard Lesser, BCG's Chief Executive Officer, as well as Ulrike Schwartz-Runer, BCG's General Counsel, raising similar concerns regarding TRACR's infringement of the '250 patent and BCG's misappropriation of Mr. Rady's confidential technology.

84. Other than receiving acknowledgements from both De Beers and BCG of receipt of these letters with pledges to investigate the allegations raised therein, neither Mr. Rady nor his counsel have received any substantive response from BCG or De Beers, other than the Letter Motions recently filed by BCG (Doc. No. 18) and De Beers (Doc. No. 21) in this matter.

COUNT I
(INFRINGEMENT OF U.S. PATENT NO. 10,469,250)

85. Mr. Rady incorporates by reference the allegations in the preceding paragraphs as if set forth fully herein.

86. Claim 1 of the '250 patent claims:

A network node comprising:

one or more processing devices;

a storage device, coupled to the one or more processing devices and storing instructions for execution by at least some of the one or more processing devices;

a communications subsystem, coupled to the one or more processing devices, to communicate with at least one or more other nodes of a peer-to-peer network; and

item analysis components coupled to the one or more processing devices, the item analysis components comprising at least one imaging device configured to determine spectral analysis data and 3D scan data from measurements generated by the item analysis components;

wherein the one or more processing devices operate to configure the network node to:

analyze an instance of a physical item using the item analysis components to determine a unique signature for the instance, the unique signature determined using 3D spatial mapping to define the unique signature from the spectral analysis data and 3D scan data generated by the item analysis components for the physical item;

determine, using the unique signature, whether the instance of the physical item is previously recorded to a blockchain maintained by the peer-to-peer network to provide item tracking and authentication services, comparing the unique signature generated by the network node to previously recorded unique signatures using 3D spatial analysis techniques, rotating in virtual space features of the physical item defined in the unique signature to determine a match with features defined in the previously recorded unique signatures; and

record the instance of the physical item to the blockchain in response to the determining whether the instance is previously recorded.

87. The De Beers solution, including TRACR and Gemfair, is comprised of each and every element claimed in Claim 1 of the '250 patent. Additional proof of this infringement is included in the claims chart attached and incorporated herein as ***Exhibit B***. Mr. Rady has not authorized such development, use, offer to license, or license of his technology by Defendants.

88. Claim 12 of the '250 patent claims:

> A computer implemented method comprising:
>
> analyzing an instance of a physical item using item analysis components of a network node to determine a unique signature for the instance, the unique signature determined using 3D spatial mapping to define the unique signature from spectral analysis data and 3D scan data generated by the item analysis components for the physical item,
>
> wherein the network node is configured to communicate with at least one or more other nodes of a peer-to-peer network, and the item analysis components comprise at least one imaging device configured to determine the spectral analysis data and 3D scan data from measurements generated by the item analysis components;
>
> determining, using the unique signature, whether the instance of the physical item is previously recorded to a blockchain maintained by the peer-to-peer network to provide item tracking and authentication services, comparing the unique signature generated by the network node to previously recorded unique signatures using 3D spatial analysis techniques, rotating in virtual space features of the physical item defined in the unique signature to determine a match with features defined in the previously recorded unique signatures; and
>
> recording the instance of the physical item to the blockchain.

89. The De Beers solution is comprised of each and every element claimed in Claim 12 of the '250 patent. Additional proof of this infringement is included in Exhibit B. Mr. Rady has not authorized such development, use, offer to license, or license of his technology by Defendants.

90. Defendants' unauthorized development, use, offer to license, and/or license of the De Beers solution in the United States constitutes an infringement of at least Claims 1 and 12 of

the '250 patent in violation of 35 U.S.C. § 271(a). Mr. Rady believes that discovery will identify several other claims being infringed.

91. Upon information and belief, Defendants have induced others in the United States to infringe at least Claims 1 and 12 of the '250 patent in violation of 35 U.S.C. § 271(b). In this regard, BCG has encouraged at least De Beers, and others, to practice the invention claimed in the '250 patent, while De Beers has encouraged others, including members of the Tracr Association, to practice the invention claimed in the '250 patent.

92. Mr. Rady has been damaged by the Defendants' infringement of the '250 patent in an amount to be determined at trial.

93. Upon information and belief, Defendants' infringement of the '250 patent has been willful.

COUNT II
(COMMON LAW MISAPPROPRIATION OF TRADE SECRETS)

94. Mr. Rady incorporates by reference the allegations in the preceding paragraphs as if set forth fully herein.

95. Mr. Rady provided BCG with information regarding his PhD research and his then-unpublished patent application under a confidentiality agreement wherein BCG agreed not to disclose this information to others within BCG or to any third party without Mr. Rady's consent.

96. In particular, in meetings with Messrs. Ravindran and Duranton, Mr. Rady detailed confidential elements of machine construction, geometric instancing, and object rotation developed by him to optimize what would later become TRACR and GemFair. For example, Mr. Rady discussed how to establish a zero trust reputational element of machine-to-machine interaction to avoid malicious actors, man in the middle attacks, and how to maximize lighting and spectrums needed to capture appropriate elements for all asset classes.

97. Mr. Rady also discussed with Messrs. Ravindran and Duranton confidential details about geometric instancing developed by him to optimize what would later become TRACR and GemFair. For example, Mr. Rady disclosed details about the creation of geometric instances by creating copies of virtually instanced representations, which can have transformation matrices applied independently without any impact on the original virtual instance. Mr. Rady also explained how geometric instancing can be used to reduce memory (RAM) usage considerably as compared to making full replicas of the original instance, as well as performing searches and matching of virtual instances in parallel fashions.

98. Mr. Rady also discussed with Messrs. Ravindran and Duranton confidential details about object rotation developed by him to optimize what would later become TRACR and GemFair. For example, Mr. Rady described in detail the use of Point Cloud Registry (PCR) and techniques such as Iterative Closest Point (ICP) to allow for the matching of assets. Mr. Rady took reasonable measures to keep details regarding his technology secret and such information derived economic value from not being generally known to, and not being readily ascertainable through proper means by, others who could obtain economic value from the use of that information.

99. Mr. Rady never provided the Defendants with consent to disclose or otherwise use the confidential information provided to BCG by Mr. Rady.

100. Upon information and belief, Defendants improperly used some or all of Mr. Rady's confidential information disclosed to them as part of Project Midnight to, among other things, develop, use, offer to license, and/or license TRACR and/or GemFair. Upon information and belief, Mr. Rady's confidential information was also used by at least BCG to develop other applications.

101. Mr. Rady has been damaged by Defendants' misappropriation of confidential information in an amount to be determined by trial.

102. Upon information and belief, Defendants' misappropriation of Mr. Rady's confidential information was willful.

COUNT III
(MISAPPROPRIATION OF TRADE SECRETS UNDER
DEFEND TRADE SECRETS ACT, 18. U.S.C. §§ 1836. *et seq.*)

103. Mr. Rady incorporates by reference the allegations in the preceding paragraphs as if set forth fully herein.

104. Mr. Rady provided BCG with information regarding his PhD research and his then unpublished patent application under a confidentiality agreement wherein BCG agreed not to disclose this information to others within BCG or to any third party without Mr. Rady's consent. This includes the information discussed in paragraphs 96-98 above.

105. Mr. Rady took reasonable measures to keep details regarding his technology secret and such information derived economic value from not being generally known to, and not being readily ascertainable through proper means by, others who could obtain economic value from the use of that information.

106. Mr. Rady never provided the Defendants with consent to disclose or otherwise use the confidential information provided to BCG by Mr. Rady.

107. Defendants improperly used Mr. Rady's confidential information as part of Project Midnight to, among other things, develop, use, offer to license, and/or license TRACR and/or GemFair. Upon information and belief, Mr. Rady's confidential information was also used by at least BCG to develop other applications.

108. Mr. Rady has been damaged by Defendants' misappropriation of confidential information in an amount to be determined by trial.

109. Upon information and belief, Defendants' misappropriation of Mr. Rady's confidential information was willful.

COUNT IV
(BREACH OF CONTRACT AGAINST BCG ONLY)

110. Mr. Rady incorporates by reference the allegations in the preceding paragraphs as if set forth fully herein.

111. Mr. Rady provided BCG with information regarding his PhD research and his then unpublished patent application under a confidentiality agreement wherein BCG agreed not to disclose this information to others within BCG or to any third party, or to use this information, without Mr. Rady's consent.

112. Mr. Rady took reasonable measures to keep details regarding his technology secret and such information derived economic value from not being generally known to, and not being readily ascertainable through proper means by, others who could obtain economic value from the use of that information.

113. This agreement to maintain the confidentiality of Mr. Rady's confidential information is a valid and binding contract.

114. Mr. Rady never provided BCG with consent to disclose or otherwise use the confidential information provided to it by Mr. Rady.

115. Defendants improperly used Mr. Rady's confidential information as part of Project Midnight to, among other things, develop, use, offer to license, and/or license TRACR and/or GemFair. Upon information and belief, Mr. Rady's confidential information was also used by at least BCG to develop other applications.

116. BCG breached the confidentiality agreement with Mr. Rady by disclosing, using, offering to license, and/or licensing Mr. Rady's confidential information without his consent.

117. Mr. Rady has been damaged by BCG's breach of contract in an amount to be determined by trial.

JURY DEMAND

118. Pursuant to Rule 38(b) of the Federal Rules of Civil Procedure, Mr. Rady respectfully requests that all issues and claims be tried before a jury.

PRAYER FOR RELIEF

WHEREFORE, Mr. Rady prays for the following judgment and relief against Defendants:

A. A judgment that the Defendants have infringed the '250 patent;

B. A permanent injunction against Defendants and their affiliates, subsidiaries, assigns, employees, agents, and anyone acting in privity or concert with them, from infringing the '250 patent;

C. A judgment that the Defendants misappropriated Mr. Rady's trade secrets and confidential information;

D. A permanent injunction against Defendants and their affiliates, subsidiaries, assigns, employees, agents, and anyone acting in privity or concert with them, from further misappropriating Mr. Rady's confidential information and trade secrets;

E. A judgment that BCG breached its agreement with Mr. Rady to maintain the confidentiality of his PhD research and other confidential information;

F. An award of all damages adequate to compensate Mr. Rady for Defendants' patent infringement and misappropriation of trade secrets, as well as BCG's breach of contract;

G. An award of treble damages as a result of Defendants' willful infringement of the '250 patent;

H. An award of pre-judgement and post-judgment interest at the maximum rate allowed by law;

I. An award finding that this is an exceptional case and awarding Mr. Rady his costs, expenses, disbursements, and reasonable attorneys' fees related to Defendants' patent infringement under 35 U.S.C. § 285 and all other applicable statutes, rules, and common law; and

J. Such other relief, in law or in equity, as this Court deems just and proper.

Dated: New York, New York
September 4, 2020

WHITEFORD, TAYLOR & PRESTON L.L.P

By: */s/ Kenneth M. Lewis*
Kenneth M. Lewis

444 Madison Avenue, Fourth Floor
New York, NY 10022
(914) 761-8400
klewis@wtplaw.com

WHITEFORD, TAYLOR & PRESTON L.L.P.
Seven Saint Paul Street, Suite 1500
Baltimore, MD 21202-1636
(410) 347-8700
stiller@wtplaw.com
khroblak@wtplaw.com
Steven E. Tiller
Kevin G. Hroblak

Attorneys for Plaintiff,
Max A. Rady